

Hawaiian Electric Companies Integrated Grid Plan Stakeholder Council (IGPSC) Meeting March 12, 2020

AGENDA
❖ Welcome
❖ Forecast (FAWG)
Break
• Modeling Sensitivities
Break
• Public Meeting Recap
• Next Steps and Closing

1) STATUS UPDATE

- A. **Stakeholder Council:** updated list of Integrated Grid Plan Stakeholder Council (IGPSC) members, including those present at the meeting, denoted with an asterisk:

Stakeholder	Name	Affiliation
HPUC	Dave Parsons	Chief of Policy & Research
Consumer Advocate	Dean Nishina*	Division of Consumer Advocacy
DBEDT	Scott Glenn	Hawai'i State Energy Office, Energy Administrator
DOD	Keith Yamanaka*	USAG-HI, Directorate of Public Works
Large CI&I Customer	Barry Usagawa	Board of Water Supply
Community Delegate (Hawaii)	Jacqui Hoover	President of Hawai'i Leeward Planning Conference and Executive Director & COO of Hawai'i Island Economic Development Board (HIEDB)
Community Delegate (Maui)		Founder and Lead Researcher for High Performance Energy Resilient Communities
Community Delegate (Moloka'i)	Barbara Haliniak	Owner, The Business Depot, Inc., and President, Moloka'i Island Foundation
Community Delegate (Lana'i)	Alberta DeJetley	Publisher and Editor of Lana'i Today, Owner, Albert's Farm, member of Lana'i Chamber of Commerce

Community Delegate (O'ahu)	Pono Shim*	President & CEO at O'ahu Economic Development Board
Local Gov't (Hawai'i)		County of Hawai'i Deputy Director, Dept. of R&D
Local Gov't (Maui)	Alex de Roode*	County of Maui Energy Commissioner
Local Gov't (O'ahu)	Robert "Rocky" Mould	County of Honolulu, Energy Program Manager, Office of Climate Change, Sustainability and Resiliency
Sustainability Advocate (Local)	Murray Clay*	Ulupono Initiative
Sustainability Advocate (National)	Merrian Borgeson	Natural Resources Defense Council (NRDC)
Small Solar & Storage	Chris Debone	DERC
Demand Response	Yvette Maskrey	Honeywell
Energy Efficiency	Brian Kealoha	Hawai'i Energy
Electric Vehicles	Melissa Miyashiro*	Blue Planet
Environmental Advocate	Henry Curtis	Life of the Land
IPP (utility-scale resource)	Gerald Sumida*	Carlsmith Ball LLP
Chair of TAP	Rick Rocheleau*	Hawai'i Natural Energy Institute (HNEI)

B. Additional Attendees- members of the public and represented entities also involved in the IGP, including those present at the meeting, denoted by asterisk.

Name	Affiliation
Noelani Kalipi*	Progression HI Offshore Wind/Progression Energy
Lauren Nuss*	County of Honolulu, Energy Program Manager, Office of Climate Change, Sustainability and Resiliency
Wren Wescoatt*	Progression HI Offshore Wind/Progression Energy
Mike Wallerstein	Hawaii Public Utilities Commission

C. January 16, 2020 Meeting Recap:

(1) Review of topics discussed:

- Review preliminary Forecasts and Other Assumptions
- Review Resilience Planning Criteria and Resilience Modeling Information
- Public Meeting Preview

2) Forecasts

- A. Forecast-** Presentation of sales forecast. The purpose of the forecast is to provide critical input into the planning models, which will determine in part what are the options/solutions needed to deliver a complete energy portfolio. The forecast represents a starting point to plan around. Sensitivities are being developed around the layers that will help address uncertainties in the assumptions.

Slides included in Presentation Materials from March 12, 2020, beginning at page 5

(1) Process Recap for Forecast Assumptions Working Group (FAWG)

A recap of the topics covered at the FAWG meetings held over the past year was covered and how the topics discussed at each meeting builds upon each other to get to where we are today in sharing the sales and peak forecast with all the layers brought together.

- o Overview of what is forecasted and high level how
- o Assumption gathering
- o Presentation of forecasting methodologies including what other utilities do
- o Review of assumptions and forecasts

Key Assumptions - At the last Stakeholder Council meeting in January the DER and EoT forecasts were presented. The results of the Statewide Market Potential Study are now available to use for the energy efficiency forecast. The energy efficiency forecast received represents savings from a realistic customer adoption of energy efficiency measures through future interventions that are similar in nature to existing interventions or the achievable business as usual potential. A high achievable potential will be provided to use for sensitivities which incorporate future non-program interventions such as new codes and standards and market transformation.

(2) FAWG's Input for Forecasts Layers

a. Underlying Factors

- (1) Warming trend in weather included in forecast
- (2) Considered changing demographics over time (e.g. age-range leaving the state)- not using that particular demographic, but it is an interesting question we need to consider. That particular consideration was not explicitly factored in however, it is captured in the range of forecasts that will be considered in sensitivity analysis.

b. Distributed Energy Resources (DER)

- (1) Our forecasts for DER reflect most PV systems are now installed with batteries
- (2) It considers the various drivers and barriers of adopting PV when deriving the uptake or identifying the eligible pool of customers likely to adopt PV.
- (3) We also heard the need to create programs that are simpler to understand and implement.
- (4) And to consider new homes having PV regardless of home ownership.

c. Electrification of Transportation (EoT)

- (1) We lowered our light duty vehicle forecast because of concerns that it looked too aggressive given current trends in population.

- (2) Initially we were only considering electric buses on Oahu. We now include Maui and Hawaii islands.
- (3) EV forecast reflect drivers and barriers of adoption.
- (4) Also heard the need to consider managed charging.

d. Consider all perspective when developing forecasts

- (1) We should consider emerging trends in the community and the perspective of all customers (e.g. increased amount of dialysis centers and impact to low income customers)

(3) O’ahu/Maui/Moloka’i/Lāna’i/Hawai’i Island Forecasts – The sales and peak forecasts were covered by layer. Historical sales and peaks were also included.

a. Sales Forecast

- (1) Underlying- economy, weather, number of customers, mix of customers, energy price, any large loads coming on/off.
- (2) DER layer – lowers the underlying layer, especially from 2011 with the rapid uptick of customer PV adoption. Installations are still growing however, at a slower pace.
- (3) Energy Efficiency layer- Largest component of reducing sales, has the effect of flattening sales going forward.
- (4) EoT – going forward this will be a major driver of sales growth.

b. Peak Forecast Layer-represents the highest peak for each year. The annual peak loads are a point in time measure. The peaks are often driven by weather. The peak forecast like the sales is developed in layers.

- (1) Underlying layer
- (2) DER layer – unlike sales, this layer has a smaller impact because energy generated is during the day with the peaks in the evening however, the impacts from batteries can reduce the evening peaks.
- (3) Energy Efficiency - Largest component of reducing the peak
- (4) EoT – Unmanaged charging has a large impact on the evening peak. Most of the electric vehicles are personally owned and most of the personally owned vehicles are being charged at home when it is most convenient to charge.

(4) Deliverables & Feedback

- a. Material provided in meetings & notes will be posted to the IGP website
- b. Soliciting feedback, taking questions and/or suggestions for FAWG to look at anything else. Please submit by March 27, 2020.

(5) Key Discussion Points

- a. Increased Demand:** The extent the forecasting on O’ahu accounts for potential increased demand, such as a fully operational HART or EV buses has been factored into the forecast, although exact numbers for HART, were not readily

available. Regarding EV buses, the forecast contains assumptions from the EoT team, who meet with bus operators. The EV buses comprise a small component of the total EV forecast, but it is factored in. Oahu Transit Service has some information as to where they're going to charge, at the base yards, etc.

- b. Unmanaged EV Charging:** Whether unmanaged EV charging is sourced through the grid or battery storage in individual households does not impact the net effect on the grid because the battery EV system is not contributing to the system during peak hours.
- c. Demand Response:** Demand response is not included in the forecast however; it is factored in downstream of the forecast in resource planning. Demand response is considered a resource. Something that is a resource could fit into the RFPs as part of the solution side of the process.
- d. Wind:** Wind was not specifically included in the forecasts, only solar, but wind is reflected in the cumulative effects.
- e. Efficiency:** In prior forecasting, Hawaiian Electric developed an energy efficiency forecast, but now utilizes the Statewide Market Potential Study for Market Efficiency (prepared by Applied Energy Group (AEG)) for the Business As Usual case, which is what is reflected in the forecast—any future influences are similar to existing interventions. A high achievable potential will also be used for sensitivities. This will include new codes and standards and market transformation.
- f. Hourly forecast:** As part of this forecast, as opposed to prior ones, Hawaiian Electric was able to not just do a sales forecast & peak forecast on an annual and monthly basis, but hourly as well. A slide was shown to illustrate how the load changes over time using a particular day in June in different years, e.g. 2020, 2030, 2040, 2050, etc. This date does not represent the worst or best day and using that day to demonstrate what happens over the years, how the different layers contribute to ultimately the peak.
- g. Battery storage:** Batteries have the effect of reducing the annual peak. Net effect is that the presumption in the forecast is that batteries will be charged by the PV system or by the grid for some stand-alone ones, if excess capacity exists, then they will discharge back into the grid and reduce the net system load.

3) **Modeling Sensitivities**

Slides included in Presentation Materials from March 12, 2020, beginning at page 25

- A. Modeling Analysis in the IGP-** Presented a high-level overview of the modeling approach in IGP and sensitivities that have been discussed in the FAWG and SEOWG (Solution Evaluation & Optimization Working Group). The process includes development of a

reference case and a set of sensitivities that stress test the reference case. The DER sensitivities serve the same function as an iteration of the sales forecast.

B. Sensitivities Categories

DER Sensitivities (proposed by Hawaiian Electric)

- Value of Market DER (no incremental DER is added beyond 2020 levels)
- No future transmission infrastructure expansion beyond existing transmission capacity (the system will rely on DER to meet RPS and system needs)

Energy Efficiency Sensitivity (proposed by Hawaiian Electric)

- High Energy Efficiency Sensitivity

State ITC Sensitivity (proposed by Hawaiian Electric)

- No State Investment Tax Credit Sensitivity

Customer Load Shift Sensitivity (proposed by Stakeholders)

- Non-Grid Participating Customer Storage Sensitivity
- Grid Participating Customer Storage Sensitivity

Electric Vehicles Sensitivities (proposed by Stakeholders)

- Customer Controlled EV Sensitivity
- Grid-Participating, Managed EV Charging Sensitivity

Offshore Wind Sensitivity (proposed by Stakeholders)

- Offshore Wind Only Sensitivity

Low Renewable Generation Sensitivity (proposed by Stakeholders and modified by Hawaiian Electric)

- Low Renewable Generation Sensitivity

C. Key Discussion Points

1. **TAP Review:** TAP review has not occurred yet. Today's meeting serves as a discussion for stakeholder council feedback as well as to identify any potential gaps in the IGP planning process.
2. **Modeling in RESOLVE:** It is anticipated that the sensitivities will be run in RESOLVE. After modeling is completed, an IGPSC meeting will be scheduled to go over preliminary results and to identify and down select the cases for detailed modeling analysis in PLEXOS.
3. **DER Market Uptake:** Assumptions that are being used to determine market uptake of DER include: looking at the near term, programs that exist today, applications that are still in the queue and timeline when DER is expected to be installed. Using an uptake model that considers economic potential, cost of a system, incentives offered and future

structure of new programs that don't exist today, is going to help support what the system needs as well as what makes sense for the customer. Also factored in the assumptions is who is going to do the adoption, e.g. residential customers (owner occupied homes). We have also looked at commercial customers who don't have PV.

4. **Undersea Cable Transmission:** Modeling contemplates transmission of on-island system only and does not include undersea cable. If we see high potential for developers in certain areas, but constrained by onshore transmission, then consideration will be given to what is the cost to harness energy and bring it to the load center. Interisland transmission is difficult because grid needs for the interconnected system may be very different than the sum of each individual island's needs. The undersea cable, depending on its configuration, can also introduce new operational constraints for the interconnected system.
5. **State Investment Tax Credit:** AEG forecast work includes business as usual and higher use assumptions. No future state investment tax credit for PV will be tested in the sensitivity. We will wait until the Legislature closes to update for state ITC changes.¹ There is a possibility that ITC for PV may be moving to batteries. Updates will be made for any changes to the Federal ITC as well. Because the IGP runs on a two-year cycle, those type of updates will be made in each cycle.
6. **Non-grid participating customer storage:** We will be looking to assess the impact of additional storage for net energy metering customers, which was a sensitivity proposed by stakeholders in the SEOWG. This sensitivity will help the Company to understand the value of the additional distributed storage capacity added to NEM customers.

Stakeholders commented that if a customer were on net energy metering already, they may not be incentivized to put storage on their home so this sensitivity may not need to be modeled. The Company agreed with the stakeholder comments and decided to not run this sensitivity in IGP. However, modeling analyses such as this sensitivity could be run to support the evaluation of future programs in the DER docket.

7. **Impact of large customers (such as the Military) who are driven by demand costs:** When Hawaiian Electric identifies grid needs and goes to the market for solutions, it will do so on a technology agnostic basis. Customer load shift sensitivities may be helpful in informing other work that is taking place such as, for example, addressing DER programs at the residential level. The intent of the sensitivities is to evaluate changes in policy or customer behavior that are not already considered as part of the reference case. If the sensitivities indicate a potentially significant benefit or risk, the Company can consider changes to the reference portfolio to account for those sensitivity results. We may not be accounting for everything in a certain sensitivity, e.g. sensitivities for distributed storage, but rather want to see if you add a battery, for example, is there a benefit. If there are benefits, then follow-up analyses can be done to determine the amounts of resources and programs to maximize those benefits.

¹ No changes to the current State ITC have passed due to the suspension of the 2020 legislative session

8. **Purpose:** Purpose of the sensitivities is not to represent a situation that is most likely, but to help directionally inform the planning process of causes and effects, which can help guide additional analyses or to make more informed decisions on programs or resources. Key is to focus on the underlying reasons for looking at the scenarios.
9. **Sensitivities Prioritization:** Scenarios can be developed from different perspectives, but a determination needs to be made as to whether it makes sense to run these scenarios. Furthermore, you need to determine if the scenario has real world applicability. Therefore, a prioritization of sensitivities was contemplated, to be conducted later, to determine which sensitivities are higher or lower in priority or if any of them should be eliminated.
10. **Low Renewable Generation:** A sensitivity considers what happens if there is no generation from solar or wind resource for one week. These are considered independently since it is unlikely that there will be low output from a wind resource for a week and low output from a solar resource at the same time.

Additionally, consideration should be given to looking at the sum of solar and wind in the past to account for their correlation, to ensure you are considering realistic scenarios.

Hawaiian Electric may be analyzing this issue for different points in time. For example, determine the impact of limited generation in the near future, several years from now and later.

11. **Multiple Mixes of Resources to Address Sensitivities:** Testing all the possible permutations is not practical. Hawaiian Electric cannot commit to testing every assumption change and testing each sensitivity. We will need to be thoughtful in things that are being tested to be efficient.
12. **Low Renewable Generation Existing Data:** Regarding the low renewable generation sensitivity, running scenarios may be useful, but there already may be a lot of information when there is no wind and solar available.

Hawaiian Electric does have the historical data. The benefit of running the sensitivity in RESOLVE model is to see the impact of the things considered in the low renewable generation sensitivity on the future portfolio. The Company can see how the resources mix changes to respond to the sensitivity's constraints.
13. **Consideration of Other Sensitivities:** Consideration may be given to grid modernization coupled with advanced rate designs. Understanding there is a wide range of future rate design, but it could be worthwhile to include it as a sensitivity. As TOU rates are developed in the process, they can be incorporated into the plans. Certain sensitivities may not be used in IGP docket but could also be used to inform other dockets and some other new programs.

14. **Loss of Generation Due to Catastrophic Event:** Another consideration that should be explored is whether Hawaiian Electric should be looking at loss of all generation due to severe weather or catastrophic events that take away our energy resources, transmission and distribution. However, we may not necessarily need to run scenarios because there already is enough existing data.
15. **Community Impacts:** There is a focus on modeling, but several aspects are not able to be modeled. These include resilience, greenhouse gas emissions, community impacts of particular projects and cost equity. Hawaiian Electric is continuing discussions on these issues.

D. Stakeholder Discussion Recap

1. Customer Load Shift Sensitivities - Considered lower priority sensitivities, not needed immediately, but can be looked at in the DER docket
2. Low Renewable Generation Sensitivity - Suggested looking at low solar days and low wind days separately and then look at coincidence of the two.
3. Consider capturing natural disasters that damage infrastructure including generation, capturing soft costs/issues that are not modeled
4. Consider that the State ITC may be too limiting, and other credits could be explored. Updates to the State ITC that are passed in the Legislature can be incorporated as a sensitivity
5. Consider adding a sensitivity for rate design impact on our plans

E. Next Steps on Sensitivities

- (1) Working to finalize the sensitivities that we will include in the IGP this month
- (2) Will share results of the reference case and sensitivities with the IGPSC
- (3) Soliciting feedback on Modeling Sensitivities discussion by March 27, 2020
- (4) Contact information: christopher.lau@hawaiianelectric.com or IGP@hawaiianelectric.com

4) Public Engagement

Slides included in Presentation Materials from March 12, 2020, beginning at page 39

A. Public Meetings

1. Public Meeting Schedules

- a. March 3, 2020- Kealakehe High School Cafeteria
- b. March 5, 2020- Hilo High School Cafeteria
- c. March 10, 2020- Hawaii Pacific University
- d. March 12, 2020- Hawaiian Electric (Kahului Auditorium)

2. Notifications

- a) **Digital Toolkit**- includes IGP Handout and IGP PowerPoint Presentation
 - (1) Were the toolkit materials helpful?
 - (2) How many used it or went to the site?

- (3) Materials are still available
- (4) Online meeting will continue until 3/31/20
- (5) Please advise if you are not able to access or looking for something different

3. Social Media

- (a) Facebook Live utilized- also a tool that can be made available to IGPSC members
 - (1) Over 1000 people watched afterwards
 - (2) Estimated reach: 6,624
- (b) Facebook events- created for each public meeting with information for each event with posts targeted and boosted by location

4. Flyers and Paid Ads- Flyers prepared and print ads run on Hawaii island and Oahu

B. Public Meetings Recap- attendance total: 138 (Kona- 17; Hilo-52; Honolulu-69)

1. Demographics- Sought information on attendees' in the following categories:

- a. Where is your home or business?
- b. What is your age?
- c. Do you make purchasing decisions for your home or business?
- d. What is your ownership of your home or business location?

2. Survey Boards- Information collected from survey boards at meetings through March 11, 2020

a. Issues of greatest importance to attendees:

Most important	Least important
Helping to increase the use of renewable energy	Adopting new technologies to provide customers with more information and control of their energy usage
Energy reliability	Lowering energy costs
	Reducing greenhouse gases

b. How interested are you in doing the following?

Already Have/Do	Not Interested
Installing rooftop solar	Installing grid interactive water heater
Buying an electric vehicle	Using transit or carpooling regularly (most trips)

c. What change at your home or business do you plan to make to help Hawaii get to 100% renewables?

- (1) Rooftop solar
- (2) Electric vehicles

- (3) Energy saving appliances
 - d. What type of help would you need to make renewable energy efficient upgrades to your home or business?
 - (1) Community-based solar
 - (2) Residential for PV
 - (3) Cost-benefit analysis
 - (4) Financial a tax rate
 - (5) Advocate for logistics & permitting to energy at the PV & storage
- 3. Survey Questions/Input Form-** input forms captured information at the public open house events and virtual open house
- a. How did you hear about the meeting?
 - (1) Word of Mouth
 - (2) Social Media
 - (3) Email
 - (4) IGP Website
 - (2) Radio
 - b. In the future, what type of Integrated Grid Planning information would you be most interested in receiving?
 - (1) Electrification of transportation
 - (2) Rooftop and community solar renewables
 - (3) General
 - (4) Grid modernization
 - (5) Advanced meters
 - c. What would be your preferred method to receive future information on IGP?
 - (1) Email
 - (2) Social media
 - (3) IGP website
 - (4) Mail
 - (5) Radio
 - (6) Newspaper
- 4. Additional Thoughts-** received comments from the open houses, including the following:
- a. Keep up good work
 - b. Thought it was informational
 - c. Appreciate including neighbor islands
 - d. Panelists gave good perspective on IGP
 - e. Virtual open house was helpful
- 5. Panel Discussion**
- a. Hilo/Kona- panel included:
 - (1) Colton Ching, Sr. Vice President, Planning & Technology, Hawaiian Electric
 - (2) Kevin Waltjen, Director, Hawai'i Island, Hawaiian Electric

- (3) Lisa Dangelmaier, Director, Systems Operations, Hawaii and Maui, Hawaiian Electric
- (4) Riley Saito, Deputy Director, Research and Development, County of Hawai'i
- (5) Ron Terry, Principal, Geometrician Associates
- (6) Carol Ignacio, Community

b. Honolulu- Panel

- (1) Cynthia Rezendes, Chair, Nanakuli Neighborhood Board
- (2) Murray Clay, President, Ulupono Initiative
- (3) Pono Shim, President & CEO, Oahu Economic Development Board
- (4) Josh Stanbro, Chief Resilience Officer & Executive Director, Office of Climate Change, Sustainability & Resiliency
- (5) Brian Miyamoto, Executive Director, Hawai'i Farm Bureau
- (6) Colton Ching, Sr. Vice President, Planning and Technology, Hawaiian Electric

6. Common questions

- a. Provided a list of common questions that came up in the panel discussions
- b. Indicated that HE has amassed and collected the entire list of questions to date from the three meetings (Hilo/Kona/Honolulu). Once Maui & the remaining online questions are collected, they will be shared with IGPSC members. HE believes it's important to see what the questions are, to learn by reviewing the questions, and then will provide responses. Some directed at other panelists, not just HE, but will make sure to get response.

7. Virtual Open House- (data collected up until 3/31/20)

- a. Total page views 264
- b. Unique page views 208 (excludes HE employees)
- c. Will be open through March 31, 2020; information will be archived afterwards and incorporated into the IGP website, but the survey questions will be removed

8. Key Discussion Points

- a. **Public meetings feedback-** IGPSC members and other attendees recounted their experience attending the Hilo, Kona and/or O'ahu public open house meetings held in March 2020. The reactions were generally positive with some notable comments as follows:
 - (1) The time for the O'ahu open house was timing is difficult for most people to attend.
 - (2) A lot of people were there (O'ahu), but most were people from the utility or already involved in the discussion, how many new people participated?
 - (3) The O'ahu panel discussion, although 1.5 hours, went by quickly. Hawaiian Electric had offered to answer all the questions asked that weren't addressed during that time. Would encourage Hawaiian Electric to respect the time/effort they took to engage and to keep them engaged in the future.

- (4) The digital toolkit & online open house can continue to be used to educate communities; however, more needs to be done. Constituencies want to be involved and engaged. It was a good starting point, but a lot more can still be done with IGPSC members who are committed to help.
- (5) It was believed that the Hilo panel discussion was successful in that the panel answered the community's questions in a specific manner, and believes the community felt responded to.
- (6) During the Oahu panel discussion, the audience was able to hear diverse voices, including voices that are not heard very often, and that people in the room needed to hear what was said. The Farm Bureau's perspective was particularly helpful to hear.

b. **Additional Public Engagement-** Members discussed the need to engage the greater community and raised questions as to the whether and how Hawaiian Electric was planning to reach the community-at-large. It was discussed that one of the reasons for convening the IGPSC was, not only to hear from these leaders and experts directly, but also for IGPSC members to be the conduit between the IGPSC and the communities that they represent. However, when opportunities are presented by IGPSC members or others to engage groups or the community, Hawaiian Electric is open to accommodate. Additional thoughts on this topic included:

- (1) The request was made to work with the public engagement consultant to meet with a cohort looking to focus on issues regarding advising/directing/teaching as a possible topic for presentation
- (2) A comment made for the need for examining externalities, looking at everything in totality, not just renewable energy, but all the things that surround and impact it.
- (3) The group was reminded that the materials developed for public engagement, including the virtual open house were available to the public and, although not as good as attending in person events, it offers valuable information and a comparable experience. The IGPSC was encouraged to be part of the effort to get the word out about the virtual open house out. Not a substitute for attending, want as many people to come to the live event, but other factors being considered, virtual open house is a good alternative.
- (4) Although the time for Q&A at the open houses was limited, the virtual open house offers the ability to continue to receive input from attendees and the community at large through submissions after the event. The virtual open house and the IGP website will continue to serve as platforms for receiving questions.

(5) It was discussed that efforts to educate and create awareness through the Department of Education may be a useful tool in getting adults to pay attention, through their children.

(6) Efforts to utilize the digital toolkit with youth groups was being contemplated and feedback would be provided in the future.

9. Next Steps/Action Items

- A. Slides from today's meeting and Summary Notes will be provided shortly after this meeting.
- B. Tentatively, next meeting will be held in May 2020 and will include:
 - 1. Review stage 2 final award group
 - 2. Review solution optimization and evaluation process and methodologies
- C. Thank you to everyone for participating in the meeting today and for your attendance at the public meetings. It was valuable to have you hear the types of conversations HE heard.
- D. IGPSC members can direct questions and feedback (on analysis, forecasts, sensitivities, etc.) to IGP@hawaiianelectric.com